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EXAMINER	
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BEFORE THE BOARD OF PATENT APPEALS

AND INTERFERENCES

Paper No. 36

Application Number: 09/220,462

Filing Date: 12/23/1998

Appellant(s): Christian Tonna et al

Thomas H. Osborn

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 16, 2003.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 16-21.

Claims 1-15 and 22-38 have been canceled.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 16-21 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7). The appellant explicitly states that the claims do stand or fall together.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

JP 402081888	Yoshikawa	3-1990
US 5,665,944	Aulanko et al	9-1997
JP 406329375	Yoshinobu	11-1994
US 5,701,973	Tracey	12-1997

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa (JP 402081888) in view of Aulanko et al (5,665,944).

Yoshikawa discloses a car, at least one elevator door 5 on a front face (see English abstract and Fig. 1) of an elevator car for movement between open and closed positions; first and second sheaves 12 on a part of the front face of the car comprising the vertical portion of the header 2 (see Fig. 2); a rope 13 forming a closed loop around the sheaves wherein the door is attached to the rope (see Fig. 1); and a drive motor 9a on the front portion of the car coupled to the elevator door. Yoshikawa does not show that the motor is integrated onto one of the sheaves. Aulanko et al shows a flat motor integrated onto a sheave (Fig. 1). It would have been obvious to one of ordinary skill in the art to modify the drive apparatus of Yoshikawa by adding a flat motor integrated onto one of the sheaves as shown in Aulanko et al in order to save space, to simplify the drive system, and to avoid the failure mode of having one of the drive belts 9d fail.

As to claim 21, Yoshikawa shows that the rope defines upper and lower portions each extending between the first and second sheaves; a second door 6 attached to the rope where door 6 is attached to the lower portion of the rope and door 5 is attached to the upper portion of the rope to move the doors in opposite directions (see Fig. 1 for rope configuration).

3. Claims 16, 17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinobu (JP 4-06329375) in view of Aulanko et al.

Yoshinobu shows an elevator car 1 with a front face (see Fig. 6); first and second elevator doors 5, 6 coupled to the front face of the elevator car; first and second sheaves 8, 9 mounted on the front face of the elevator car (see Fig. 6) with a closed loop rope in between (see Fig. 6) the sheaves and attached to the doors; a drive motor 13 on a front portion of the car driving one of the sheaves via a pulley (see Fig. 6). Yoshinobu does not show a flat motor integrated onto a sheave. Aulanko et al show a flat motor integrated onto a sheave. It would have been obvious to one of ordinary skill in the art to modify the apparatus of Yoshinobu by replacing the pulley driven reduction system of Yoshinobu with the flat motor integrated onto a sheave as taught by Aulanko et al in order to save space and eliminate the failure mode of the pulley 15.

As to claim 17, since the sheaves 8, 9 of Yoshinobu are mounted on the front face of the elevator ca between the upper and lower edges of the car (see Fig. 6), and since the flat motor is integrated onto the sheave as taught by Aulanko et al, Yoshinobu in view of Aulanko et al inherently disclose that the flat motor is mounted on the front face of the elevator car.

As to claim 21, Yoshinobu shows that the rope defines upper and lower portions each extending between the first and second sheaves; a second door 6 attached to the rope where door 6 is attached to the lower portion of the rope and door 5 is attached to the upper portion of the rope to move the doors in opposite directions (see Fig. 6 for rope configuration).

4. Claims 18-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinobu in view of Aulanko et al as applied to claims 16 and 17 above, and further in view of Tracey (5,701,973).

Yoshinobu in view of Aulanko et al show the drive apparatus (sheaves 8, 9 , integrated flat drive motor, etc.) mounted between the upper and lower edges of the elevator car (Fig. 6 of Yoshinobu with the motor integrated onto the sheave). They show an elevator door hangar in front of the car (see Fig. 6 of Yoshinobu) and the flat drive motor in front of the car. They show a door hangar (11, 12 of Yoshinobu) disposed forward of the drive motor since the hangars are disposed in front of the drive rope (see Fig. 6 of Yoshinobu) and the rope is in front of the motor. Yoshinobu does explicitly show a header to mount the drive components. Tracey shows a header mounted between the top of the car and the top of the door opening (see Figs. 1 and 2 of Tracey). It would have been obvious to one of ordinary skill in the art to further modify the apparatus of Yoshinobu by adding the header bracket of Tracey in order to allow modular construction of the drive system so that an entire drive unit and header could be changed out while troubleshooting takes place.

As to claim 19, Yoshinobu as modified by Aulanko et al and Tracey show that the header is disposed below the upper edge of the car and above the door opening (see Fig. 6 of Yoshinobu and Fig. 2

of Tracey) and extends between the first and second sides of the car and that the drive is mounted on the header bracket.

As to claim 20, Yoshinobu as modified by Aulanko et al and Tracey show that the flat drive motor is mounted generally adjacent the first side of the car since the sheave is generally adjacent to the first side of the car (Fig. 6 of Yoshinobu) and the flat motor is integrated onto the sheave.

(11) Response to Argument

(1) Claim 16 is unpatentable over Yoshikawa in view of Aulanko et al

The Appellant argues that there is no teaching to modify Yoshikawa by replacing the drive train (9a, 9b, c, 9d, 12) with a flat motor integrated onto a sheave. The examiner respectfully disagrees. Aulanko et al contemplates in its discussion of the prior art a separate motor driving a drive sheave via a drive train (e.g., col. 1, lines 10-16). This represents the state of the art over which Aulanko et al wish to improve. Aulanko et al explicitly teaches that this configuration can be replaced by a flat motor integrated onto a sheave (col. 2, lines 42-46). In summary the claimed combination is shown by Yoshikawa in view of Aulanko et al.

The Appellant further argues that there is no motivation to modify the apparatus of Yoshikawa as taught by Aulanko et al. The examiner respectfully disagrees. As stated in the rejection, one of ordinary skill in the art would modify the drive apparatus of Yoshikawa by substituting a flat motor integrated onto a sheave in order to save space, to simplify the drive system, and to avoid the failure mode of having the drive belt 9d fail (par. 2, line 12 of final rejection). Aulanko et al explicitly states the space savings as a motivation (e.g., col. 2, lines 33-48). While not explicitly stated in Aulanko et al, the further motivation of

simplifying the drive system is inherently disclosed since Aulanko et al disclose the ability to replace a diverting pulley with the integrated flat motor and sheave system (col. 2, lines 45-46) as an advantage. Additionally, it is not required that the motivation be explicitly stated in the teaching reference. Rather, it is required that the motivation be obvious to one of ordinary skill in the art. *In re* Sheckler, 168 USPQ 716 (CCPA 1971); *In re* McLaughlin, 170 USPQ 209 (CCPA 1971). The motivations of simplifying a mechanism, in this case a drive system, and of reducing failure modes (in this case removing the possible failure of the belt between the motor and the drive sheave) are well known to those of ordinary skill in the art. In summary, motivations relied upon in the rejection are either provided explicitly in the teaching reference or are well known to one of ordinary skill in the art.

(2) Claim 16 is unpatentable over Yoshinobu in view of Aulanko et al

The Appellant appears to argue that the 35 U.S.C. 103(a) rejection of claim 16 using Yoshinobu in view of Aulanko et al is improper and that the claim is allowable. However, the text of the Appellant's argument is directed toward a prior combination (Yoshikawa in view of Aulanko et al and Kershaw) no longer relied upon by the examiner. Since the combination of Yoshinobu in view of Aulanko et al is very similar to the combination of Yoshikawa in view of Aulanko et al, and based on previous discussions with the Appellant, the examiner assumes that Appellant would argue that the combination is not shown, and that motivation for the combination is lacking. A response is presented below.

The Appellant argues that there is no teaching to modify Yoshinobu by replacing the drive train (13, 14, 15, 7, 8) with a flat motor integrated onto a sheave. The examiner respectfully disagrees. Aulanko et al contemplates in its discussion of the prior art a separate motor driving a drive sheave via a

drive train (e.g., col. 1, lines 10-16). This represents the state of the art over which Aulanko et al wish to improve. Aulanko et al explicitly teaches that this configuration can be replaced by a flat motor integrated onto a sheave (col. 2, lines 42-46). In summary the claimed combination is shown by Yoshinobu in view of Aulanko et al.

The Appellant further argues that there is no motivation to modify the apparatus of Yoshinobu as taught by Aulanko et al. The examiner respectfully disagrees. As stated in the rejection, one of ordinary skill in the art would modify the drive apparatus of Yoshikawa by substituting a flat motor integrated onto a sheave in order to save space and to avoid the failure mode of having the drive belt 15 fail (par. 3, line 11 of final rejection). Aulanko et al explicitly show the space savings as a motivation (e.g., col. 2, lines 33-48). While the additional motivation of eliminating failure modes is not explicitly stated in Aulanko et al, it is not required that the motivation be explicitly stated in the teaching reference. Rather, it is required that the motivation be obvious to one of ordinary skill in the art. *In re* Sheckler, 168 USPQ 716 (CCPA 1971); *In re* McLaughlin, 170 USPQ 209 (CCPA 1971). The motivation of eliminating failure modes (in this case removing the possible failure of the belt between the motor and the drive sheave) is well known to those of ordinary skill in the art. In summary, motivations relied upon in the rejection are either provided explicitly in the teaching reference or are well known to one of ordinary skill in the art.

(3) Claims 18-20 are unpatentable over Yoshinobu in view of Aulanko et al and Tracey

The Appellant argues that claims 18-20 are allowable based solely on the argument that the 35 U.S.C. 103(a) rejection of claim 16 using Yoshinobu in view of Aulanko et al (see previous paragraph) is improper and the depending claims 18-20 are therefore also allowable. No arguments are presented against the additional combination of Tracey.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Steven B. McAllister

December 6, 2001

Conferees

Robert P. Olszewski

James P. Trammell